

WHAT IS CLAIMED IS:

- Sub C1)
1. An antimicrobial composition comprising:
in the range of 0.01 to 5 wt. % of a C6-C12 fatty acid; and
a carrier medium including a freezing point depressant component, wherein
5 the freezing point depressant component makes up greater than 60 wt. % of the total
composition.
2. The antimicrobial composition of claim 1, wherein the fatty acid is C7-C9.
- 10 3. The antimicrobial composition of claim 1, wherein the fatty acid is heptanoic
acid.
4. The antimicrobial composition of claim 1, wherein the freezing point
depressant component is selected from polyol or mixtures thereof.
- 15 5. The antimicrobial composition of claim 4, wherein the freezing point
depressant component is selected from propylene glycol, glycerin, and mixtures
thereof.
- 20 6. The antimicrobial composition of claim 5, wherein the freezing point
depressant component is a mixture of propylene glycol and glycerin.
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7. The antimicrobial composition of claim 1, wherein the composition has a freezing point of below 32°F.

8. The antimicrobial composition of claim 1, wherein the composition has a
5 freezing point of below 20°F.

9. The antimicrobial composition of claim 1, wherein the composition has a freezing point of below 10°F.

10 10. The antimicrobial composition of claim 1, wherein the composition has a freezing point of below 0°F.

11. The antimicrobial composition of claim 1, wherein the composition has a freezing point of below -10°F.

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12. The antimicrobial composition of claim 1, wherein the composition has a freezing point of below -20°F.

14. The antimicrobial composition of claim 1, wherein the freezing point
20 depressant component makes up greater than 65 wt. % of the total composition.

15. The antimicrobial composition of claim 1, wherein the freezing point depressant component makes up greater than 70 wt. % of the total composition.

16. The antimicrobial composition of claim 1, wherein the freezing point depressant component makes up greater than 75 wt. % of the total composition.

5 17. An antimicrobial composition comprising:
in the range of 0.01 to 5 wt. % of heptanoic acid; and
greater than 60 wt. % of a freezing point depressant component comprising
propylene glycol and glycerin.

10 18. An antimicrobial composition comprising:
an antimicrobial component consisting essentially of heptanoic acid, and
a carrier medium.

15 19. A method for controlling mastitis in milk producing animals, the method
comprising:
applying an antimicrobial composition to a teat of an animal wherein the
antimicrobial composition comprises in the range of 0.01 to 5 wt. % of a C6-C12 fatty
acid and a carrier medium including a freezing point depressant component, wherein
the freezing point depressant component comprises greater than 60 wt. % of the
20 composition.

20. The method of claim 19, wherein the antimicrobial composition is applied in
environmental temperatures of below 40°F or is applied to the teat of an animal that

will be exposed to environmental temperatures of below 40°F within 12 hours of the application.

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21. The method of claim 20, wherein the environmental temperatures of below 30°F. *or 2*
22. The method of claim 20, wherein the environmental temperatures of below 20°F. *or 2*
- 10 23. The method of claim 20, wherein the environmental temperatures of below 10°F. *or 2*
24. The method of claim 19, wherein the fatty acid is C7-C9.
- 15 25. The method of claim 19, wherein the fatty acid is heptanoic acid.
26. The method of claim 19, wherein the freezing point depressant component is selected from polyols or mixtures thereof. *or 2*
- 20 27. The method of claim 26, wherein the freezing point depressant component is selected from the group consisting of propylene glycol, glycerin, and mixtures thereof. *or 2*

28. The method of claim 27, wherein, wherein the freezing point depressant component is a mixture of propylene glycol and glycerin.

29. The method of claim 19, wherein the composition has a freezing point of
5 below 32°F.

30. The method of claim 19, wherein the composition has a freezing point of
below 20°F.

10 31. The method of claim 19, wherein the composition has a freezing point of
below 10°F.

32. The method of claim 19, wherein the composition has a freezing point of
below 0°F.

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33. The method of claim 19, wherein the composition has a freezing point of
below -10°F.

34. The method of claim 19, wherein the composition has a freezing point of
20 below -20°F.

35. The method of claim 19, wherein the freezing point depressant component
makes up greater than 65 wt. % of the total composition.

37. The method of claim 19, wherein the freezing point depressant component makes up greater than 75 wt. % of the total composition.

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